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GB 700067

GB 403632

GB 259705

(68) Field of search

E1D

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## (54) Wall block

(57) A modular wall block comprises a frame D at least one side of which is covered by a panel E, the panel being secured to the frame by means of

rivets, the frame having rivet holes C by means of which the block may be joined to other such blocks to form a wall. The blocks are easy to join together to form walls for refineries, chemical fire and blast walls, heat treatment chambers etc.

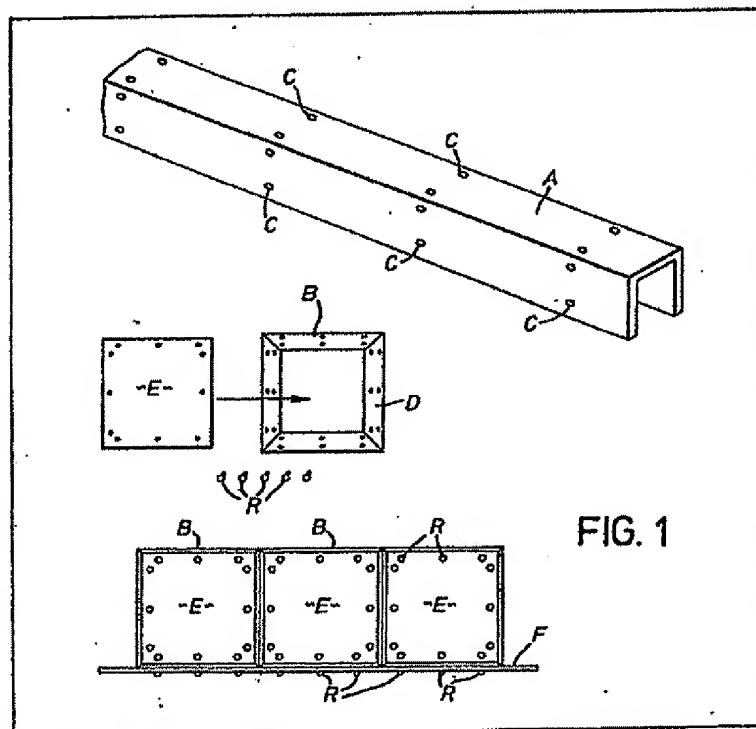


FIG. 1

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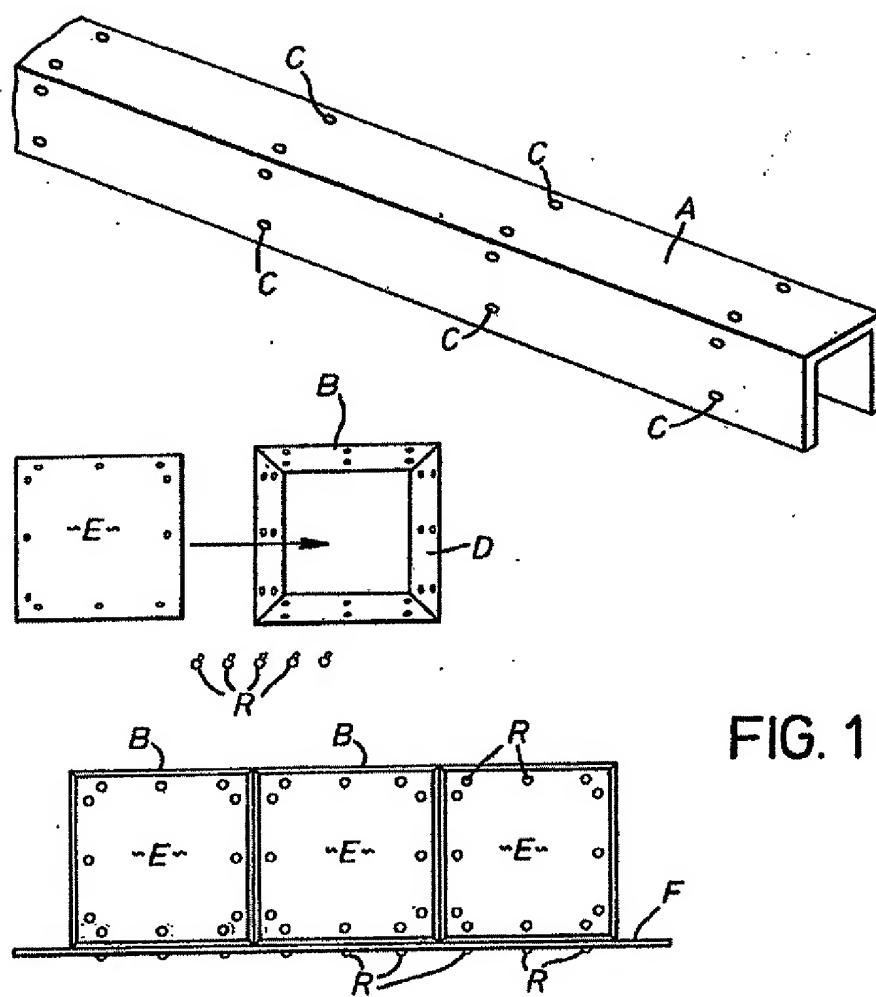


FIG. 1

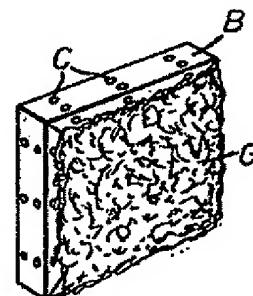


FIG. 2

**SPECIFICATION**  
**Walls made of modular blocks**

- The invention relates to walls, which term includes sidewalls, floors and roofs, and to modular blocks of which they are made. The invention further includes chambers made of such walls and blocks, which chambers may be permanent or temporary in nature.
- It is an object of this invention to provide means and method of making a wall, for example, a wall for a furnace, or oven, or a fire or blast wall which relies on the use of modular blocks which are simple and cheap to make and to assemble and dismantle.
- According to a first feature of the invention, there is provided a modular block comprising a frame at least one side of which is covered by a panel, the panel being secured to the frame by means of rivets, the frame having rivet holes by means of which the block may be joined to other such blocks to form a wall.
- Most preferably the frame and the panel are both formed of light weight material. An example of a suitable material is mild steel about 1 mm thick for use as the panel. Other suitable materials for the panel include aluminium alloys, plastics and even wood.
- The use of rivets both to hold the panel to the frame and to join the frames of adjacent blocks together is an especially advantageous feature of the invention. This technique is simple, cheap and can be applied anywhere as rivetting guns are available readily. The modular construction of a wall is made possible by the use of rivets.
- Most preferably the invention includes an elongate connecting strip having preformed, preferably prepunched, rivet holes, and the blocks are joined in side-by-side relation along the strip by means of rivetting.
- Most preferably the blocks are used to build up a wall of a heat chamber in which case a heat insulating medium will be secured to a panel.
- Preferably the heat insulating medium is a ceramic fibrous medium which may be sprayed onto one or both panels. The fibre may be in preformed lengths which are secured e.g. by gluing to the panel, preferably edge on.
- The invention includes a structure having at least one wall formed of modular blocks as disclosed herein.
- The wall may be a refinery or chemical fire and blast wall, or the wall of a walkway, or it may be part of a chamber such as a paint spray booth, a site cabin, a storage area, a shot blast cabin or room. The chamber may be a heat treatment chamber such as a furnace, stove or oven.
- In order that the invention may be well understood, it will now be described by way of example only with reference to the accompanying diagrammatic drawings, in which

Figure 1 shows schematically a way of making a portion of a wall, and

Figure 2 is a perspective view of a block to form part of an oven wall.

- 65 The blocks B are each formed from mild steel strip A about 10 mm thick and of -U- cross-sectional shape. The strip is punched with rivet holes C about 200 mm apart longitudinally of the strip and arranged in pairs about 50 mm apart.
- 70 The holes C are present on the base and sidewalls of the strip. The holes are preferably non-circular e.g. elliptical, to allow for crude tolerances of the parts. In use, the strip is bent to form a four sided frame D and the free ends are joined together e.g. by welding to form the box shape shown. The block may measure 600 mm X 600 mm X 75 mm.
- A cladding panel E also prepunched with rivet holes C and about 1 mm thick is held to each side of the frame D and then riveted in position by rivets R using a rivetting gun. The blocks B so formed are then riveted to an elongate prepunched connecting strip F and in this way a row of modular blocks is formed. When a wall of sufficient size is built up the blocks may be sprayed with a ceramic fibre slurry to a required thickness to form a heat insulating fibrous layer G for e.g. an oven wall.
- In the embodiment shown the blocks are hollow but an infill may be present, especially when the blocks are required to be load bearing e.g. in the case of a floor.
- While the wall may be permanent, it may also be temporary in which case when the wall is to be dismantled the rivets may be broken using a suitable tool and the individual blocks recovered for reuse.
- CLAIMS**
1. A modular block comprising a frame at least one side of which is covered by a panel, the panel being secured to the frame by means of rivets, the frame having rivet holes by means of which the block may be joined to other such blocks to form a wall.
2. A block according to Claim 1, in which the frame and the panel are both formed of lightweight material.
3. A block according to Claim 2, in which the lightweight material is mild steel about 1 mm thick.
4. A block according to any preceding Claim, in which a heat-insulating medium is secured to the panel.
5. A block according to Claim 4, in which the heat-insulating medium comprises ceramic fibres.
6. A wall comprising a plurality of blocks according to any preceding Claim, the blocks being joined together by means of rivets.
7. A wall according to Claim 6, including an elongate connecting strip having preformed rivet holes, the blocks being joined in side-by-side
- 100 105 110 115 120

relation along the strip by means of rivets.

8. A wall according to Claim 6 or 7, forming part of a refinery, chemical fire and blast wall, the

wall of a walkway, or part of a chamber such as a

5. paint spray booth, a site cabin, a storage area, a shot blast cabin or a heat treatment chamber.

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402 409 422 531 545 801  
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(56) Documents cited  
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GB 259705

(58) Field of search  
E1D

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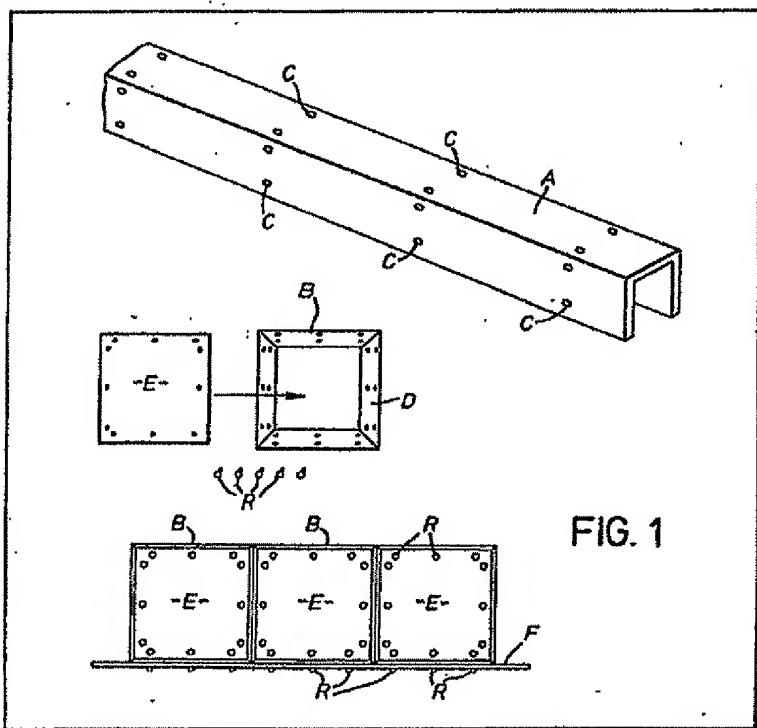
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